In The Claims:

1.   (Currently Amended) A system for effectively utilizing resources in an electronic device, comprising:

> a resource characterization coupled to said electronic device, said resource characterization corresponding to a requested process, said resource characterization including resource requirements required for executing said requested process;

> an allocation manager configured to authorize or deny said requested process by referencing said resource characterization, said requested process executing with optimal performance in a non-degraded manner when authorized by said allocation manager, said optimal performance being due to guaranteed pre-allocated resources provided by said electronic device; and

> a processor coupled to said electronic device for controlling said allocation manager.

2.   (Original) The system of claim 1, wherein said electronic device is coupled to an electronic network that is implemented according to an IEEE Std 1394 serial bus interconnectivity standard.

3.   (Original) The system of claim 1 wherein said electronic device is one of a consumer-electronics device, an audio-visual device, a set-top box, and a personal computer device.

4.   (Original) The system of claim 1 wherein said requested process includes one or more time-sensitive isochronous processes for manipulating time-critical isochronous data.

5.   (Previously Presented) The system of claim 1 wherein said allocation manager compares said resource requirements to current available resources, said allocation manager authorizing said requested process only when said resource requirements are less than, or equal to, said current available resources.

6.   (Original) The system of claim 1 wherein a software module generates a request to instantiate said requested process on said electronic device.

7.   (Original) The system of claim 6 wherein said request includes an identifier that corresponds to said resource characterization.

8.   (Original) The system of claim 6 wherein said allocation manager evaluates said resource characterization in response to said request from said software module.

9.   (Original) The system of claim 8 wherein said resource characterization includes one or more resource listings and one or more corresponding resource usage values that are required for an optimal performance of said requested process.

10.   (Original) The system of claim 8 wherein said resource characterization includes resource information regarding total available resources from said electronic device.

11.   (Original) The system of claim 8 wherein said allocation manager compares resource usage values from said resource characterization and current available resource values from said electronic device to determine whether to authorize said requested process.

12. (Original) The system of claim 11 wherein said current available resource values are initially set to be less than one-hundred percent of total device resources before any resource allocation is made.

13. (Original) The system of claim 11 wherein said allocation manager authorizes said requested process whenever said resource usage values from said resource characterization are less than or equal to said current available resource values from said electronic device.

14. (Original) The system of claim 11 wherein said allocation manager denies said requested process whenever said resource usage values from said resource characterization are greater than said current available resource values from said electronic device.

15. (Original) The system of claim 13 wherein said allocation manager updates said available resource values with said resource usage values whenever said requested process is authorized by said allocation manager.

16. (Original) The system of claim 13 wherein a picokernel in said electronic device instantiates and executes said requested process after said allocation manager authorizes said requested process.

17. Cancelled.

18. (Original) The system of claim 1 wherein said allocation manager sequentially references a plurality of resource characterizations to handle a plurality of respective requested processes.

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19.   (Original) The system of claim 1 wherein said allocation manager references a plurality of resource characterizations to handle said requested process.

20.   (Original) The system of claim 1 wherein at least one of said resource characterization and said allocation manager is re-configurable to provide an altered functionality to said electronic device.

21.   (Currently Amended) A method for effectively utilizing resources in an electronic device, comprising the steps of:

> referencing a resource characterization with an allocation manager, said resource characterization corresponding to a requested process, said resource characterization including resource requirements required for executing said requested process;
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> authorizing or denying said requested process with said allocation manager based upon said resource characterization, said requested process executing with optimal performance in a non-degraded manner when authorized by said allocation manager, said optimal performance being due to guaranteed pre-allocated resources provided by said electronic device; and
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> controlling said allocation manager with a processor that is coupled to said electronic device.

22.   (Original) The method of claim 21, wherein said electronic device is coupled to an electronic network that is implemented according to an IEEE Std 1394 serial bus interconnectivity standard.

23.   (Original) The method of claim 21 wherein said electronic device is one of a consumer-electronics device, an audio-visual device, a set-top box, and a personal computer device.

24. (Original) The method of claim 21 wherein said requested process includes one or more time-sensitive isochronous processes for manipulating time-critical isochronous data.

25. (Previously Presented) The method of claim 21 wherein said allocation manager authorizing said requested process only when said resource requirements are less than, or equal to, said current available resources.

26. (Original) The method of claim 21 wherein a software module generates a request to instantiate said requested process on said electronic device.

27. (Original) The method of claim 26 wherein said request includes an identifier that corresponds to said resource characterization.

28. (Original) The method of claim 26 wherein said allocation manager evaluates said resource characterization in response to said request from said software module.

29. (Original) The method of claim 28 wherein said resource characterization includes one or more resource listings and one or more corresponding resource usage values that are required for an optimal performance of said requested process.

30. (Original) The method of claim 28 wherein said resource characterization includes resource information regarding total available resources from said electronic device.

31. (Original) The method of claim 28 wherein said allocation manager compares resource usage values from said resource characterization and current available resource values from said electronic device to determine whether to authorize said requested process.

32. (Original) The method of claim 31 wherein said current available resource values are initially set to be less than one-hundred percent of total device resources before any resource allocation is made.

33. (Original) The method of claim 31 wherein said allocation manager authorizes said requested process whenever said resource usage values from said resource characterization are less than or equal to said current available resource values from said electronic device.

34. (Original) The method of claim 31 wherein said allocation manager denies said requested process whenever said resource usage values from said resource characterization are greater than said current available resource values from said electronic device.

35. (Original) The method of claim 33 wherein said allocation manager updates said available resource values with said resource usage values whenever said requested process is authorized by said allocation manager.

36. (Original) The method of claim 33 wherein a picokernel in said electronic device instantiates and executes said requested process after said allocation manager authorizes said requested process.

37. Cancelled.

38. (Original) The method of claim 21 wherein said allocation manager sequentially references a plurality of resource characterizations to handle a plurality of respective requested processes.

39.   (Original) The method of claim 21 wherein said allocation manager references a plurality of resource characterizations to handle said requested process.

40.   (Original) The method of claim 21 wherein at least one of said resource characterization and said allocation manager is re-configurable to provide an altered functionality to said electronic device.

41.   (Currently Amended) A computer-readable medium comprising program instructions for utilizing resources in an electronic device by performing the steps of:

referencing a resource characterization with an allocation manager, said resource characterization corresponding to a requested process;

handling said requested process with said allocation manager based upon said resource characterization, said requested process executing with an optimal performance in a non-degraded manner when authorized by said allocation manager, said optimal performance being due to guaranteed pre-allocated resources provided by said electronic device; and

controlling said allocation manager with a processor that is coupled to said electronic device.

42.   (Original) A system for effectively utilizing resources in an electronic device, comprising:

means for referencing a resource characterization that corresponds to a requested process;

means for handling said requested process based upon said resource characterization; and

means for controlling said means for referencing and said means for handling.

43.   (Previously Presented) A method for effectively guaranteeing resources for isochronous processes in an electronic device, comprising the steps of:

> creating a resource characterization that corresponds to a requested isochronous process that is requested by a device software module of said electronic device, said resource characterization specifying one or more resource requirements that are required for successfully executing said requested isochronous process in a non-degraded manner;
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> comparing said one or more resource requirements from said resource characterization to corresponding current available resources of said electronic device by utilizing an allocation manager;
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> authorizing said requested isochronous process with said allocation manager only when said corresponding current available resources are greater or equal to said one or more resource requirements from said resource characterization, said requested isochronous process thus executing in said non-degraded manner when authorized by said allocation manager due to guaranteed pre-allocated resources provided by said electronic device; and
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> controlling said allocation manager with a processor device that is coupled to said electronic device.

44.   (Previously Presented) The method of claim 43 wherein said requested isochronous process handles isochronous data that is time-sensitive, said isochronous data including video data that requires deterministic operations from said electronic device to guarantee a timely processing and delivery process for said video data.

45.   (Previously Presented) The method of claim 43 wherein said corresponding current available resources are equal to respective total device resources minus respective used device resources for said electronic device.

46. (Previously Presented) The method of claim 45 wherein each of said respective total device resources are initially specified to be a predetermined value that is less than one-hundred percent of corresponding actual total device resources for said electronic device to thereby reserve a portion of said resources from said electronic device for performing essential non-isochronous tasks.

47. (Previously Presented) The method of claim 43 wherein simultaneously executing a plurality of isochronous processes in said electronic device without guaranteeing sufficient resources results in degraded performances for one or more of said plurality of isochronous processes because said plurality of isochronous processes have simultaneously been authorized without sufficient resources, said degraded performances including a disruption of video information displayed by said electronic device, said degraded performance being unacceptable as a performance model for said electronic device.

48. (Previously Presented) The method of claim 43 wherein said resource characterization is implemented as a two-dimensional array of descriptive parameters that include one or more first parameters that each identifies a resource type, said descriptive parameters also including one or more second parameters that each specifies an amount of resource usage required for said resource type during said requested isochronous process.

49. (Previously Presented) The method of claim 43 wherein said one or more resources requirements correspond to a bus bandwidth resource of said electronic device, a processing capacity resource of said processor device, and a memory capacity resource for said electronic device.

50. (Previously Presented) The method of claim 43 wherein said resource characterization includes one or more resource usages that specify said one or more resource requirements for said requested isochronous process, said resource usages each being implemented as a ratio of a resource use amount for said requested isochronous process per a given time period that includes a process scheduling overhead for scheduling and instantiating said requested isochronous process with a picokernel program in said electronic device.

51. (Previously Presented) The method of claim 43 wherein said device software module generates an isochronous request to said allocation manager for instantiating said requested isochronous process on said electronic device, said isochronous request including a resource characterization identifier that corresponds to said resource characterization, said allocation manager responsively evaluating said resource characterization in response to said isochronous request from said device software module.

52. (Previously Presented) The method of claim 43 wherein said allocation manager authorizes said requested isochronous process to said device software module whenever resource usage values from said resource characterization are less than or equal to said current available resources of said electronic device, said allocation manager denying said requested isochronous process to said device software module whenever said resource usage values from said resource characterization are greater than said current available resources of said electronic device.

53. (Previously Presented) The method of claim 54 wherein said allocation manager generates a request fail signal to said device software module whenever said requested isochronous process is denied.

54. (Previously Presented) The method of claim 43 wherein said allocation manager performs an available resource update procedure for updating said current available resources whenever said requested isochronous process is authorized by said allocation manager, said available resource update procedure reducing said current available resources by said one or more resource requirements for said requested isochronous process.

55. (Previously Presented) The method of claim 43 wherein said electronic device is coupled to an electronic network for receiving and transmitting isochronous data corresponding to said requested isochronous process, said one or more resource requirements in said resource characterization including one or more network resource requirements for other electronic entities in said electronic network.